

THE BUTTERFLIES OF WARRUMBUNGLE NATIONAL PARK, NEW SOUTH WALES

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Introduction

The Warrumbungle National Park is situated approximately 480 km north-west of Sydney and some 30 km west of Coonabarrabran. It comprises the major part of an isolated group of mountains well known for their spectacular geological scenery. A recent illustrated account of the Park is given by Fox (1975).

The 36 butterfly species listed here include all known records for the Park. The only previously published accounts of butterflies for the Park are those of Smithers and Peters (1972) whose records are shown below as "Jan/Feb", and a short note (Anonymous, 1961) mentioning 2 butterfly species, *Eurema smilax* and *Heteronympha merope merope*, taken during April.

Collecting by us during the Easter holiday period from 20-24 April 1973, as well as during weekends in September and January by one of us (GD) has provided the remaining data. Our collecting was undertaken in the lower regions of the Park, principally in the vicinity of Pincham, Canyon and Burbie Camps, as well as higher elevations including Quinton's Lookout, Split Rock, Bluff Mountain and Mount Exmouth (the last 2 localities being the highest in the Park with elevations of approximately 1200 m).

List of species

HESPERIIDAE

- Taractrocer a papyria papyria* (Boisduval) Jan, Jan/Feb, Apr
Ocybadistes walkeri sothis Waterhouse Jan/Feb, Apr

PAPILIONIDAE

- Papilio aegaeus aegaeus* Donovan Apr
Papilio demoleus sthenelus W. S. Macleay Sept, Jan/Feb, Apr

PIERIDAE

- Catopsilia pyranthe crokera* (W. S. Macleay) Apr
Eurema hecabe phoebus (Butler) Sept, Apr
Eurema smilax (Donovan) Sept, Jan/Feb, Apr
Elodina padusa (Hewitson) Sept
Delias argenthona argenthona (Fabricius) Apr
Delias aganippe (Donovan) Sept, Apr
Anaphaeis java teutonia (Fabricius) Apr
Pieris rapae rapae (Linnaeus) Sept, Jan/Feb, Apr

NYMPHALIDAE

- Danaus plexippus plexippus* (Linnaeus) Apr
Danaus chrysippus petilia (Stoll) Sept, Jan/Feb, Apr
Euploea core corinna (W. S. Macleay) Jan/Feb, Apr
Hypocysta metirius Butler Jan
Hypocysta pseudirius Butler Sept, Jan/Feb, Apr

<i>Geitoneura acantha acantha</i> (Donovan)	Jan/Feb, Apr
<i>Geitoneura klugii klugii</i> (Guérin-Méneville)	Jan/Feb
<i>Heteronympha merope merope</i> (Fabricius)	Jan, Jan/Feb, Apr
<i>Polyura pyrrhus sempronius</i> (Fabricius)	Jan/Feb, Apr
<i>Hypolimnas bolina nerina</i> (Fabricius)	Apr
<i>Vanessa kershawi</i> (McCoy)	Sept, Jan/Feb, Apr
<i>Vanessa itea</i> (Fabricius)	Sept, Jan/Feb, Apr
<i>Precis villida calybe</i> (Godart)	Sept, Jan/Feb, Apr
<i>Acraea andromacha andromacha</i> (Fabricius)	Jan
LYCAENIDAE	
<i>Paralucia pyrodiscus pyrodiscus</i> (Rosenstock)	Jan
<i>Lucia limbaria</i> Swainson	Jan/Feb
<i>Nacaduba biocellata biocellata</i> (C. & R. Felder)	Sept, Apr
<i>Theclinesthes onycha onycha</i> (Hewitson)	Jan/Feb, Apr
<i>Lampides boeticus</i> (Linnaeus)	Sept, Apr
<i>Neolucia serpentata serpentata</i> (Herrich-Schäffer)	Jan/Feb, Apr
<i>Zizina otis labradus</i> (Godart)	Sept, Jan/Feb, Apr
<i>Candalides hyacinthinus hyacinthinus</i> (Semper)	Sept, Jan/Feb
<i>Candalides xanthospilos</i> (Hübner)	Sept, Jan/Feb
<i>Candalides heathi heathi</i> (Cox)	Jan/Feb

Discussion

The distributions of all the above species are extensive, most occurring at least throughout eastern Australia and in fact a comparison of the faunal lists of Mendooran (c. 80 km S) (Daniels, 1975) and Narrabri (c. 120 km ENE) (Douglas, 1976), with that of the Warrumbungle National Park show many similarities. Only 2 species, *Taractrocera papyria papyria* and *Paralucia pyrodiscus pyrodiscus*, have not been recorded quite as far west at this latitude previously.

On 23rd April 1973 migrations of *Anaphaeis java*, *Catopsilia pyranthe* and *Vanessa kershawi* were observed between Canyon and Pincham Camps. *A. java* was flying NNE at 25-30/min, while both *C. pyranthe* and *V. kershawi* were flying approximately E and in much smaller numbers.

Eggs and larvae of *Danaus plexippus* and *D. chrysippus* were common on *Asclepias curassavica* growing along the water courses in the lower regions of the Park, during April 1973. Females of *Polyura pyrrhus* were observed ovipositing on Kurrajongs (*Brachychiton populneum*) at Canyon Camp also at this time.

The 36 species now known from the Park, by no means form an exhaustive list of those that can be expected to occur there. The nature of the limited collecting so far undertaken indicates that many other species will certainly be found following further collecting.

Acknowledgements

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References

- Anonymous, 1968. Some insects of the Warrumbungle National Park. *Circ. ent. Soc. Aust. (N.S.W.)* 184: 18-19.
- Daniels, G., 1975. The butterflies of Mendooran, N.S.W. *Aust. ent. Mag.* 2: 57-59.
- Douglas, R. G., 1976. Butterflies in north-western New South Wales: Narrabri and Bellata. *Aust. ent. Mag.* 3: 12-15.
- Fox, A. M., 1975. The Warrumbungle Mountains, a personal experience. *Aust. nat. Hist.* 18(8): 296-303.
- Smithers, C. N. and Peters, J. V., 1972. Butterflies observed in Warrumbungle National Park, N.S.W. *Aust. ent. Mag.* 1(1): 11-12.

BOOK REVIEW

Insects and the life of man. Collected essays on pure science and applied biology. By Sir Vincent B. Wigglesworth. 1976. Chapman & Hall, London. Australian distributors: Hicks, Smith & Sons, Pty Ltd, Sydney. vi + 217 pages, 140 cm x 220 cm, 10 figures. Price \$23.10 (hard cover), \$9.90 (paperback).

This slim but attractive little volume brings together sixteen diverse essays and addresses published by the doyen of insect physiology earlier in his long and distinguished career. The subjects range from down-to-earth entomological topics, such as "Insects and the Farmer" (Chapter 6) and "Malaria at War" (Chapter 9), through more general assessments and perspectives exemplified by "Science, Pure and Applied" (Chapter 4) and "The Insect as a Medium for the Study of Physiology" (Chapter 10), a biography, "The Contributions of Sir John Lubbock (Lord Avebury) to Insect Physiology" (Chapter 11), to quite philosophical themes, "Wordsworth and Science" and "The Religion of Science" in the last two chapters.

Inevitably, some of the earlier and more factual contributions, such as "DDT and the Balance of Nature" (Chapter 3), are now rather out-of-date and perhaps, of little more than historical interest; this is readily acknowledged by the author in his Introduction and in footnotes scattered through the text. But these chapters are well worth the reading, nonetheless, for they demonstrate, in retrospect, the tortuous paths of scientific thinking and understanding in such important fields as insect ontogeny and practice in pest control. Here, too, the author frequently foreshadowed developments and problems that have since materialised and the present-day reader can hardly fail to be impressed by his evident perspicacity and mastery of his subject.

Each of the essays and addresses was evidently intended to serve, originally, as an independent and rounded contribution but despite this, the present combination forms a surprisingly well integrated and logical series and covers a broad spectrum. Some repetition that could perhaps have been reduced by more extensive editing, is apparent between related chapters but this does not seriously detract from overall readability.

The book is well produced and remarkably free from typographical errors but its high local price seems likely to restrict the wide readership it would otherwise deserve.